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IN THIS ISSUE

Proceedings of the Atlantic City Meeting of the Department of Visual Instruction
(Continued from March Issue)

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The EDUCATIONAL SCREEN

APRIL, 1938 VOLUME XVII NUMBER FOUR

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Something Wrong with Films in General Education

An interesting discussion of changing aims in education and the changes needed in educational films to correspond

By CHARLES F. HOBAN, JR.
American Council on Education, Washington, D. C.

IN beginning a fifteen minute paper on motion pictures in general education I feel somewhat like the seven dwarfs when Snow White asked, "How do you do?" and Grumpy replied, "How do you do what?"

There seems to be agreement that something is wrong with the general education we are providing youngsters through high school and college, and that something is wrong with the motion pictures that have been produced for use through high school and junior college. It seems, therefore, an easy conclusion that one of the things wrong with our educational motion pictures is our education.

There is time here to discuss only two faults that have marked our pattern of general education and consequently motion pictures produced to fit into this pattern. The first is our concept of motivation, and the second our concept of objectives.

We have, in the past, relied on an artificial scheme of rewards and punishments to provide motives for learning in the classroom. If a youngster got the answers to all his arithmetic problems correct he was given a star, moved to the head of the class, and marked 100%. If he got all the answers incorrect, he was given a black look, held up to ridicule, and marked zero. If his behavior was consistently correct he was promoted to the next grade, if incorrect he was failed. This procedure was varied with the privilege of washing the blackboard or the punishment of staying in school longer—either by the day or by the year.

Thus, on an extrinsic and artificial system of rewards and punishments youngsters were and are motivated to learn logical bodies of subject-matter. The procedure was sanctified by our educational psychologists who proclaimed the laws of learning to be the laws of effect, and the effects to be either pleasant or unpleasant. The law of use or repetition was passed in the first decade of this country, but virtually repealed in 1930 with publication of Thorndike's *Human Learning*. It is no longer necessary to repeat to learn.

In the second of our educational faults, we need not share responsibility with educational psychologists, unless we are or have aspired to be educational psychologists. It is in their actual code only to find out how you learn, never what or why you learn. The result is that we have countless investigations on whether it is better to add up or to add down, but none on why you should add at all, and what you should do about your addition.

To us, as educators, goes the credit for educational objectives. We are indebted, to be sure, to temperance organizations, veterans associations, descendants of veterans, and other well-intentioned groups for conspicuous assistance in this matter of objectives, but, in the end, full responsibility is ours.

We have preserved the cumulative educational "stuff" not only of the Founding Fathers and their descendants, but of their predecessors who knew Abelard. Consequently, subject matter introduced into the curriculum because of its functional relationship centuries ago, remains in the curriculum today because of educational inertia. We study Latin because at one time Latin was the living language of educated men. Since we are usually no longer interested in what these educated men talked about, we study the way they talked. We study geometry and trigonometry largely because we were once a nation of navigators and surveyors. The reasons for the introduction of Latin, and geometry, and trigonometry have been forgotten or neglected, but we still have these subjects in the curriculum. Since we have forgotten why they were introduced, the objective of instruction in these subjects is mastery of subject matter facts.

As our knowledge of the universe and the people in it has increased, we have an ever-increasing subject matter in our curriculum, and its mastery is increasingly difficult. And so we have turned, in our dilemma, to quick and painless panaceas —the radio and the motion picture. In the former we have the master teacher at the microphone, and thousands of youngsters at the loud-speaker as the master speaks. In the motion picture we have the other magic of the age, and we can now teach in the twelve minutes of a classroom film what we took weeks and months to teach before. Manifestly, if more facts can be imparted in a twelve-minute motion picture than can be grasped in a much longer reading period, the motion picture is an important and indispensable educational medium. Classes can be herded into auditoriums, teachers can be utilized for other duties, and the mad game of fact-imparting-fact-getting can proceed merrily as unit costs drop, and taxpayers associations turn to other worlds to conquer.

Such is the picture when American education loses functional relationship to the society which maintains it. But such is not the picture envisaged by educators who are critically examining our American school system. They are raising the questions of motivation and of objectives. They are convinced that the motives of classroom behavior must be rooted in the needs of classroom youngsters and the needs of the society of which they are and will be an integral part. They are defining the objectives of education, not as a mastery of isolated subject matter, but as behavior in relation to the satisfaction of human needs and to the adjustment of the individual and his potential contribution to American culture.

In this picture much of our subject matter remains, but the objectives of its study are changed. In other words, we are defining the changes of behavior we expect to result from school experience. In so doing, we are changing the relationships of our subject-matter, we are crossing old department boundaries, we are omitting some and adding other material.

Let us see how this concept applies to motion pictures. Because most of our recently produced classroom films are science films, and because most of these science films were produced for the main purpose of imparting information, let us see how a science film could be produced to meet youngsters' needs and modern educational objectives.

Motivation, we believe, should be rooted in human needs. What for instance, is a human need? One of the most fundamental is the need for security. To meet this need for security we must have a system of thinking that will enable us to establish a pattern of values and beliefs, and to apply these values and beliefs to the confused impacts that come to us from all sides. Our great religious systems have done much to satisfy that need in the past. Now we find our pupils coming into high school and college for their first systematic

study of science. Actually, to many of our students, science is chemistry, or zoology, or physics, or botany, and experience in science consists of unhappy and confused hours in smelly laboratories and memorization of Boyle's law, or the animal phyla, and chemical formulae, or gaping at spirogyra through a microscope. Theoretically, if some of the experience even in this type of teaching penetrates the personalities of our high school and college youngsters, the study of science means the upsetting of old religious beliefs. It means conflicts between the Bible and what are purported to be scientific facts, hypotheses, theories. It means conflicts between the cultural values of home, parents, and family, and a new cultural pattern of school, teachers, and students.

At the same time we find science playing an increasingly important role in our culture. Its findings are being applied to industry, to health, to food, to clothes, to household utilities, to most of the things with which youngsters come in daily and intimate contact.

It, therefore, seems essential to human happiness and human well-being that we clearly distinguish between science as an authoritarian system of values and beliefs, and science as a method of learning truth, and hence a means toward better adjustment of the individual to his culture. If there is a choice between these two, the scientific method must be chosen, because scientific findings are continually changing and the philosophy of science must necessarily be a philosophy of method.

It seems clear, then, that our science films must be produced with a view of developing an understanding of and a functional application of scientific method. The method of science will not necessarily become functional in the behavior of youngsters if we merely abstract its elements and pass these abstractions on to youngsters. We must rather provide as direct experience as possible in the situations of scientific method and thus provide the basis for its understanding. Youngsters should be able to learn from experience the difference between observed data, tentative hypotheses, theories, and principles; they should know how these are derived, they should understand the assumptions upon which data, hypotheses, and theories are based; and they should appreciate their tentative and changing nature. Students should also become aware of conflicting theories and of the necessity of a constant search for proof. Such understandings and appreciations are fundamental not only to the era of science, but to such common experiences as reading newspapers and magazines, listening to the radio, buying tooth paste and mouth antiseptics, or voting the party ticket. From this method of reflective thinking and assembling proof an enduring and satisfying pattern of values and beliefs can be established.

How, then, can motion pictures contribute to the development of such behavior? One obvious way is to portray the derivation of scientific data in its human setting. We could, for instance, make a film on the dramatic story of the chemical preparation used to treat streptococcic infections—how this chemical compound which acts like a dye was first used experimentally in Germany in 1933, how later it was tested experimentally at the Pasteur Institute in France, how from there it was introduced in a London hospital for the treatment of human patients with streptococcic infections, and how in 1936 experimental work with the preparation developed in Germany was undertaken at Johns-Hopkins Hospital. Following early reports of this experimental work the compound was used widely in the United States. In this part of the story, the posing of hypotheses, the testing of these hypotheses under controlled and varied conditions, and the careful gathering of data in support of hypotheses could be portrayed dramatically in a contemporary setting with real scientists and real human subjects. It could be shown how assumptions were recognized, how data were observed, how hypotheses were developed, how proof was gathered, how proof was validated, how some conclusions were formed, how other conclusions were held in abeyance, how experimental inquiry was and is continued in search for more evidence, more facts, more proof.

Then it could be shown how one untested assumption resulted in fatal consequences—how a pharmaceutical house mixed the chemical compound in an improper solution—a solution which for this particular purpose proved harmful. In other uses this solution had been a satisfactory solvent. In another solution the chemical compound, now generally known as sulphanilamide, had proved successful in treating streptococcic infections. The assumption was that, since this solution was previously in other uses not harmful to human patients and since this chemical compound had been used successfully to treat streptococcic infections in human patients, this compound in this solution would be beneficial in streptococcic treatment. The tragic consequences of this assumption are well known.

Here, again, we have the scientific method in a human setting, and human error in the application of scientific method resulting in human tragedy. The scientific method is no longer a cabala of the laboratory and the classroom. It is a pattern of behavior which in this case meant in its application healing the sick—in its misapplication, death.

A small beginning has been made in this type of film for theatrical use. In "The Story of Louis Pasteur" the crude attempt to establish scientific controls in the determination of the cause of anthrax was shown in the segregation of sheep into separate pens. Very dramatically the human situations which beset the scientist in his search for truth were portrayed, as were the seemingly endless trials the scientist must make in searching for this truth. In another theatrical film, "Arrowsmith," a similar situation was drawn, but in this case an added factor was introduced. The climax of the photoplay came when Arrowsmith refused to follow the controlled group procedure because it meant certain death for the controlled group. Here an ethical question was raised—the same ethical question that scientists must face when they experiment with human beings in a democratic society where the worth of the individual is unique. It is the same basic principle which our warmakers refuse to recognize.

From these few examples we can draw at least six criteria by which our educational films of this type can be produced and used:

1. They must be related to the needs of students and of society.
2. They must contribute to specific behaviorial objectives and these objectives are necessarily multiple and interrelated.
3. They must be dramatized in a setting of human, social, and contemporary significance.
4. They must be oriented in a functional rather than an abstract approach.
5. They must be constructed to appeal not only to the intellectual processes, but to the affective and conative processes, i.e., to the ideals, emotionals, and motivation of human behavior.
6. They must be developed in conformity with the hypotheses of learning that are generally accepted by psychologists, and are validated in common schoolroom experience.

If we had such films for instruction, our teaching would, I believe, change human behavior in a fundamentally better direction. It might even change the Latin poet to read "Dulce et decorum est, pro fratribus vivere."

The use of visual aids in classroom instruction is growing in Pennsylvania. More schools use motion pictures for the teaching of Science than for instruction in any other school subject. Travel and Geography rank second, followed by History, Social Science, Health, English, Nature Study, and Commerce and Industry. (*Penn. Public Education Bulletin.*)

Amateur Motion Pictures in the Schools

An illuminating discussion of values of teacher-and-pupil-made films, with full details on their production

By E. WINIFRED CRAWFORD
Director of Visual Education, Montclair, New Jersey

PICTORIAL records of school pupils and their work have been made ever since the discovery of the photographic plate. The first pictures, which are of considerable research value today, were of the exteriors of buildings and formal class groups. The early interior pictures of classes were taken with the thought of showing the children, and later of seeing them at work. With the change in philosophy of education, photographs were made to indicate teaching techniques. These pictures were used for illustrations in books and magazines, and stereopticon slides were made from them to supplement talks at teachers' meetings and lectures. Today motion pictures are filmed for use during teaching and to study teaching techniques. The uses of pictures taken in the schools have changed from early times when the main aim was to show the children unto today, when motion pictures are used to study all phases of educational procedure.

This discussion focuses on the use of amateur motion pictures in the schools. The term *motion pictures* for this study is defined as: sixteen or eight millimeter silent motion pictures taken by non-professional persons. These pictures are of educational procedures in the schools and of a wide range of subjects used in school work. The group of amateurs includes the director of visual education, teachers, parents, pupils, and other friends of the school. This limitation to amateur films is made to emphasize a phase of work that a school or school system can do in its local situation.

The value of the motion picture over the photograph and stereopticon slide for interpreting education is twofold: that of motion and of sequence. Activity is such an integral part of school life today that motion is needed to give an accurate pictorial record and an unbroken sequence of events. These two factors, together with the stopping of the film for stills, makes the motion picture indispensable for study and enjoyment. The main drawback for some of these films is the lack of sound.

The major reasons for using these motion pictures in the school are: (1) advancement of thinking during teaching, (2) improvement of instruction, (3) interpretation of schools to parents and community, (4) study of educational procedures in teacher training institutions, (5) medium of expression for pupils, and (6) development of appreciations, interests and hobbies.

Advancement of Thinking during Teaching

Motion pictures when carefully selected and evaluated for the desired purposes add interest and present an opportunity for related thinking. Many pictures taken by teachers and friends of the school while on vacation or business trips are splendid for school work. These films are used to introduce units of work or centers of interest, to carry forward the pupils' thinking during the study, to aid in summarizing, to give a new view in a review, or to make a transition from one unit to another. These uses, which are similar to those that might be stated regarding most motion pictures, overlap. The objectives of the study determine the reason and place of the film in the unit and the number of times it is shown either in part or in entirety. The fiords and glaciers of Norway taken from a Norwegian steamer introduce the country or sponge fisheries of Bermuda give detailed information. A form the major part of a study on the work of glaciers. The travelogue of Mexico aids in a summary or gives a new view in a review. Not every picture taken by every traveler is good for school use, but some pictures filmed by those who know what to take to make the motion pictures significant for teaching purposes are of outstanding value.

Improvement of Instruction

Motion pictures, taken in the schools or of school activities by the director of visual education, are used for the improvement of instruction. The director, the general or special consultant, principal, or department head, discusses a teaching situation as depicted in a film at a faculty meeting, conference, grade level or department meeting. An individual or a group of teachers make a detailed study of an activity program as shown on the screen. Though observation and discussion of actual teaching is the finest way to improve instruction, this is not always possible. With an understanding and sympathetic consultant, teachers become willing to share their classroom experiences with others through the medium of the motion picture. Teachers, besides realizing that it is a recognition of their efforts, feel that they gain much help from studying films of their own work and from the group discussions.

A film depicting a junior high school unit of work with its center of interest on a study of copper is used as the basis of discussions to see how the objectives of the unit are accomplished, how the learning process is carried forward, and how the pupil's thinking is advanced. These films because they are silent, need good captions to help interpret what is taking place. School systems that are introducing progressive or creative educational procedures are using the films to supplement visitation and to orient teachers in their thinking regarding the newer approach to the objectives of education.

A study of pupils' work habits is made from films by both teachers and pupils. A classroom, whose arrangement seems much more objective when viewed on the screen, is studied from the standpoint of efficient arrangement of furniture, and accessibility of books, maps, and materials so that it may be reasonably possible for pupils to form good work habits. This film on the study of copper, which was taken of the normal classroom life, shows the way the pupils use the equipment, the efficiency of their movements, and the manifestation of interest in and attention to their work. The fellow school mates' habits, are quick to recognize fussing, lack of sustained application, poor use of reference materials and equipment, and false movements which show a failure to analyze what is to be done and to make a plan for accomplishing the work efficiently. It is obvious that the results of study habits from the standpoint of learning cannot be determined from silent films.

Interpretation of Schools to Parents and Community

Motion picture films are used to help interpret the work of the schools to the parents and to the community. School procedures have changed so much in the last two decades that many adults who do not understand what they see when they visit the schools or are not able to go to the schools, welcome an opportunity to see school activities as they can be shown through the medium of the motion pictures. The parents at

Parent-Teacher Meetings or School Night Conferences discuss with enthusiasm the educational principles underlying the experiences revealed in the motion pictures in which they perhaps see their own children. Community gatherings, church groups, social service meetings, and adult education classes gain an idea of the schools from films which show situations of an entire school day of one class, of a unit of work which lasts over several weeks, of the athletic or arts programs, or of a pageant written and produced by pupils as a result of their work under several teachers.

Study of Educational Procedures for Teacher Training Institutions

Teacher training institutions place much emphasis on observation of master teaching. As a supplement to it, but not to take its place, is the motion picture of classroom procedures. The film may be shown several times to permit the same silent situation to be studied from various points of view. The lack of sound reproduction of what is taking place is a drawback for this use as well as the study of teaching techniques. The same film showing the pupils carrying on their studies during the unit of work on copper forms an objective basis for a discussion in introduction to teaching, of the psychology involved in a unit, of pupils' habits of work and of the organization of visual aids to help advance thinking and accomplish the objectives. A motion picture of dramatic play in the kindergarten is analyzed for discussion of the values of guided play. The films are used by individuals or by groups of students for detailed investigation. Research studies need to be made to evaluate the several ways films are employed in education classes.

Medium of Expression for Pupils

Motion pictures are used as a medium of expression by pupils. The children in an elementary school which is emphasizing bicycle safety are planning the scenes to be filmed that will record their findings regarding the safe way to ride bicycles. A beginning group of pupils in a speech improvement class writes a play with the object of having motion pictures taken of themselves when they play it. Thus a motive is furnished handicapped children to help them engage in a normal enterprise.

Development of Appreciations, Interests, and Hobbies

Motion pictures that present situations in which appreciations may be felt present rich, vicarious experiences that are wholesome, enjoyable, and uplifting for class, club, or school. Pictures taken by the president of our Board of Education of the yearly reenactment of the Pilgrim story at Plymouth give an opportunity to understand an historical event and to realize some of the greatness connected with it. A canoe camping trip through the rivers and lakes of central Canada which two teachers conducted unfolds the good times enjoyed, and the wonders of unspoiled nature. Boulder Dam reveals the accomplishment of man's mind. The tides and gulls on the Maine coast lure one to rest and think. Such appreciations tend to expand the thoughts and feeling of the pupils and thus enrich their emotions.

Linked very closely with the last point and partly an outgrowth of it is the use of motion pictures to develop interests and hobbies. Such motion pictures reveal many interests as hiking, collecting and identifying minerals and rocks, making marionettes, and cooking for boys, which may develop into hobbies. The taking of still pictures and, with teachers and older pupils, of motion pictures, when a definite purpose for the photographic record is dominant, becomes life-long interests. These avocations, outgrowths of the enjoyment received from motion pictures, result in enriched interests and appreciations.

Filming and Editing of Motion Pictures

Very careful consideration needs to be given the taking of the two types of films to which reference is made: the one of school activities and the other of social science, science or other content. The purpose or purposes for which the pictures are to be used in the school determine the kind and amount to be filmed. After the purpose is determined and clearly analyzed, comes the investigation of what regular school work is going on or about to be initiated whose filming will portray what is desired. Because a unit of work or center of interest has much activity in it, or a play is pretty, or the children are attractive it does not follow that these are the ones to be filmed.

The person who operates the camera needs to be an educator or some one who knows the type of work to take that will illustrate the desired objective. This professional photographers find difficult. The best pictures of school situations are taken while the study is progressing, only rarely need anything be repeated. This means that the one doing the filming needs to be familiar, not only with the purposes for taking the picture, but with aims and plans the teacher has for herself and the children. The amateur photographer, who then can work while the children are working, is able to film the significant experiences of groups or individuals, and the activities that depict lasting values. The pupils who have had no contacts with motion picture cameras are interested in the mechanical procedure. What is going to be done, the reason for it, and the equipment used, and the way the camera works, should be talked over with them. Permit the pupils to look through the finder and press the starter when the camera is empty. All this is well worth the time that it takes for then the pupils go about their work freely and the pictures taken are as natural as possible. Those who are filming the picture for social studies, sciences, arts, or literature may film for their own enjoyment or to fulfill definite teaching objectives or both. Such ideas as casual relationships, types of life significant of a people, culture patterns, industrial developments, life processes and beautiful scenes are some of the important phases to be considered when the films are to be used in the schools. The value of color and slow motion needs attention for specific scenes.

The editing of both types of films should make the sequence of the picture develop the desired purposes for education. The planning of the captions needs much thought, for clear and succinct titles help guide the thinking of those who see the film and help interpret and perhaps evaluate what is seen on the screen. All the mechanical points and technical arrangements should be so well planned and accomplished that nothing distracts from the thought of the picture.

Amateur Motion Pictures for Future Research

Pictorial records, the amateur silent motion pictures of life lived in the schools and out, is brought to the school for these varied educational functions. The motion pictures of school activities that have been taken this past decade are a record of education at a time when it has made a most fundamental transition as a result of a change in educational philosophy. Though observation of pupils in the educational situation is of paramount value for study of teaching techniques, the experience is of a passing nature. The pictorial record is lasting. This fact makes these motion pictures of education valuable objective source material for research by future generations. It is to be hoped that copies of these films and detailed records regarding them will be kept so that when, in years to come, internal and external criticisms are focused upon them, they will reveal the truth.

Editor's Note—Miss Crawford illustrated her address with some of her own films and those taken by teachers and friends of the school.

Problems in Preparing Pictorial Material for Classroom Use

How text material and pictures are collected and selected for inclusion in these study units

By DR. JAMES E. MENDENHALL
Editor, Building America, New York City

THERE is growing interest in the field of visual education on the part of teachers, administrators, and curriculum-makers throughout America. There is also a vast store of visual material on hand and in process of preparation. As yet, however, there is only a beginning toward the production of visual materials which teachers need and want to make their classwork more interesting and vital to students.

Those at work in the preparation of pictorial materials for the classroom face many problems. Here will be raised some of these problems, particularly the problems which we have confronted in the preparation of the study units in our *Building America* series.[1]

The main objective of *Building America* has been to help American youths to become more intelligent about life in their own communities, and in the United States as a whole. In line with this goal, we selected a series of titles which we believed covered basic aspects of American economic, social, and cultural life. Among these titles were: Housing, Food, Men and Machines, Transportation, Health, Communication, Power, Recreation, Youth Faces the World, Our Constitution, Safety, Clothing, Social Security, Steel, We Consumers, Conservation, Movies, News, Our Farmers, Labor, Education, Our Federal Government, Chemistry at Work, War or Peace, and Seeing America.

To decide upon titles, our Editorial Board makes use of two main techniques. First, our Board members analyze what is going on in the world today. They find, for example, that everybody is talking about housing. The Federal Government is launching a housing program. Newspapers and magazines are filled with articles and pictures on housing. Schools are introducing housing into their courses of study. From all these facts, our Board decides that "Housing" is an important title to include in the *Building America* series. Second, educators in the field are canvassed to determine what teachers, curriculum specialists, and other members of the Society believe to be valuable titles. Last year a questionnaire was sent out to Society members, and 335 out of 500 replied.[2] Tabulation of the returns revealed the following votes: Finding Your Job—259; How Our Federal Government Serves Us—225; The Farmers' Problem—239; News—222; War—195; Seeing America—182; Applied Chemistry—173; Oil—144; Education—136, etc. Here is an example of ways by which the producer of pictorial materials can secure the opinions of field workers in determining what the field thinks is important.

After the Editorial Board has decided upon the titles, our staff goes to work preparing an outline of content and list of illustrations to be included under each title. For orientation and facts, we go first to basic scientific books bearing on a particular field. Some of the books are useful in preparing a number of titles. Such books would be, *America's Capacity to Consume* and *America's Capacity to Produce*, both published by the Brookings Institution of Washington, D. C. Other books are more specialized. Such would be Alfred M. Lee's *The Daily Newspaper in America* and John R. Commons and Associates, *History of Labor in the United States*, and the *Cost of Medical Care*. For some titles we must refer to a cluster of books and pamphlets which give reliable and basic information.

From the examination of these printed materials, we find certain important generalizations which we believe should be incorporated in the issues of *Building America*. Among these generalizations are:

1. Half of the American people live in houses which do not meet the minimum standards of comfort and decency.
2. In 1929, two-thirds to three-fourths of America's families had to follow an emergency or subsistence diet because they could not afford an adequate or liberal diet, necessary to maintain health, growth, and physical efficiency.
3. From 1919 to 1937, power machines and technology slightly more than doubled the productivity of the average factory worker.
4. Only half of our people visit a physician at least once a year, and only one-fifth go to the dentist.
5. Recently, accidents have every year caused 100,000 deaths, nearly 10,000,000 injuries, and a loss of about $3,500,000,000; much of this waste could be prevented.
6. Three-fourths of America's steel is produced by seven large corporations.
7. The erosion of little waters has destroyed or damaged the soil covering two-thirds of our nation's arable land. Less than a fifth of America's original forest lands are left.
8. Even in 1929, a prosperous year, America's industries were operating at about four-fifths of capacity. That year the income of the average American family was about $1,700. If America's industries worked to practical capacity and if income were more equally distributed, experts believe the average family would receive an income somewhere between $2,500 and $4,300 a year.

These generalizations represent the selection and evaluation of the most important facts reported by experts. They are also generalizations which are of immediate and deep concern to young people now attending schools and to adults in general.

After this general reading, we make up the final outline. This outline gives the fifteen sections to appear in the study unit. It also gives a general description of content and a suggested list of pictures.

Our next task is to search for pictures. All possible sources are canvassed. These sources can be divided into three main groups: First are such governmental agencies as the local Department of Health, the Bureau of Conservation of the State, and the U. S. Department of Agriculture at Washington, D. C. These agencies of course supply pictures free. Second are commercial companies such as the United States Steel Corporation, American Telephone and Telegraph, and United Artists. These companies are very cooperative in supplying free photographs, diagrams, maps, and other illustrative materials. Third are the commercial picture agencies such as Ewing Galloway, Philip D. Gendreau, Acme Newspictures, Armstrong Roberts, and International News Service,—all with

1 *Building America* is sponsored by the Society for Curriculum Study, an organizaiton of some 800 teachers, specialists, and other curriculum workers.
2 See "Building America Sounds Out the Experts," by James E. Mendenhall, *Curriculum* Journal, March, 1937.

offices in New York City. These agencies charge a flat rate of $5.00 for the right to reproduce one print.

The photo-researchist on our staff writes to out-of-town sources for pictures. He canvasses in-town sources by "leg-work." Soon pictures come pouring into our office. We examine these pictures carefully, and select the one which we consider the best. A "best" photograph must show people in action and as they really are living, working, and playing. A "best" photograph must contribute important facts to the study unit in which it is to be used. A "best" photograph must be artistically good. It must be clear,—that is, easy to analyze and study. It must be simple, with a definite center of interest. It must be good composition.

This process of collection and selection goes on for about two weeks. By the end of that time, we have fairly well decided upon which pictures we plan to use. We have also made up a photostatic dummy. This is done by marking the originals for size, and having photostats made of them. These photostats are pasted in the dummy.

We find it time-saving to make up the photostatic dummy before trying to write the complete text. The pictures we say must take about so much space—in a typical *Building America* study unit, about half of the space is devoted to pictures. Text takes the remaining space in the form of headings, captions and running matter. These are written and re-written until in final shape for setting in type.

When the issue is in dummy form with pictures, captions, and text in place, we submit this dummy to members of our Editorial Board and to experts in the field. If the issue is controversial, we show the dummy to experts on opposing sides and to impartial authorities such as government officials. The "Power" dummy for example was looked over by experts who favored municipal ownership and by experts who favored private ownership. This is done because on controversial problems, we try to present all points of view as fairly as possible, leaving the reader free to draw his own conclusions.

After we have made revisions suggested by the Editorial Board and by the experts, the issue of *Building America* goes to press. The copies of the publication are then sent to hundreds of individuals and schools throughout the United States. When the issue is in the hands of readers, it is subjected to evaluation by these same readers. Teachers and pupils write in, making comments and suggesting points for possible change. Some of our readers are officials in large business corporations. Some are labor leaders. Some are editors of newspapers and magazines. These readers too are critics who help evaluate our materials, and give us basic suggestions for revision, when a unit is to be reprinted.

In conclusion, it would be well to mention one of the most serious problems we meet in preparing *Building America*. That problem is to get good photographs which portray the living conditions of the American people. Most photographs stress the technical side of life, and ignore the human side. "What a beautiful machine!" exclaims the observer. And the critic replies, "But what about the man who is tending that machine?" We can secure idealized portrayals of home life from the commercial picture agencies. We can secure realistic pictures of home life in America's poverty-stricken areas, from the U. S. Government.[3] But we find it difficult to get good pictures of the life of the average American family at home and on the job.

It is an objective of *Building America* to use pictures to convey ideas and to challenge young people to understand and to make better the world in which they live. If pictures are well-taken, well-selected, and well-presented, pictures have power to educate our nation's youths.

[3] Many of these valuable documentary photographs come from the U S. Farm Security Administration, Washington, D. C.

DEPARTMENT OF VISUAL INSTRUCTION

President's Letter

WHY DON'T schools adopt new materials of instruction more readily? Why should schools be unwilling to use visual materials which have been proved effective under fairly rigorous experimental conditions? Why isn't some work in visual instruction provided either as a course or as a unit of instruction in teacher education work? If films are so effective in information building, in the formation of attitudes, why don't we use them in our work in citizenship, in history, in the social studies?

These are questions which most members of our Department have faced again and again. All of us have groped for an explanation for what to us may seem like slow progress. Is there an explanation that is satisfactory?

May I first point out that many persons would not admit that progress has been slow. They would point out that the rate of educational change is normally slow. They would cite a study by Dr. Briggs of Columbia University which showed that even among a group of selected, supposedly superior, high-school teachers, more than eighty per cent were using traditional recitation, question-and-answer methods — that only twenty per cent were introducing students to the kinds of experiences that progressive educators have been urging since 1900.

There are a number of plausible reasons for the failure of visual materials to penetrate deeply into the practice of the schools with the rapidity that some of us would like to see occur. These are financial reasons. Apathy, inertia, and routine are still far too common in the classroom. And as long as the memorizing of textbooks is a common objective of the teacher, visual materials are not likely to be widely used. Certainly, too, in some fields there is a paucity of excellent materials.

Nevertheless there is one deterrent which I believe is stronger than any other. Teachers do not know how to use these materials in the classroom. The mechanical problems are easily overcome, but what you actually do with pictures, with slides, with excursions, with films is not so simple. Use of these materials requires far more planning than when one merely assigns lessons in a textbook. And when films are used merely to add to the accretion of facts of the viewer, a real dilemma results. Pictorial materials have virtually hundreds of facts in them. How could you go about memorizing an excursion?

I believe, then, that our major problem in introducing these new materials of instruction is a teacher-training one. We must help the teacher in her initial

period of experimenting with a new device which gives a different type of experience to students. We must make that help specific. How can this be done?

I suggest the following ways for giving this specific instruction. First, through demonstrations by able teachers. This has been neglected both within school systems and in the programs of the visual instruction department. There should be on file in the office of the secretary a list of teachers who can give skillful demonstrations.

Second, we need to collect and publish what Charters has called the "unrecorded specifics." These are especially skillful ways of carrying out some particular teaching activity. This is especially necessary in the field of visual instruction, where the literature on teaching methods is still meager. Chapter two in "Motion Pictures in Education" is especially valuable for this purpose. The teaching sequences in the film "Overcoming Limitations to Learning" illustrate the recording of teaching methods on sound film. Teachers do not want recipes to follow, they do want and need a rich variety of suggestions for their initial work in a new field. Our Department ought to be able to furnish such assistance. EDGAR DALE.

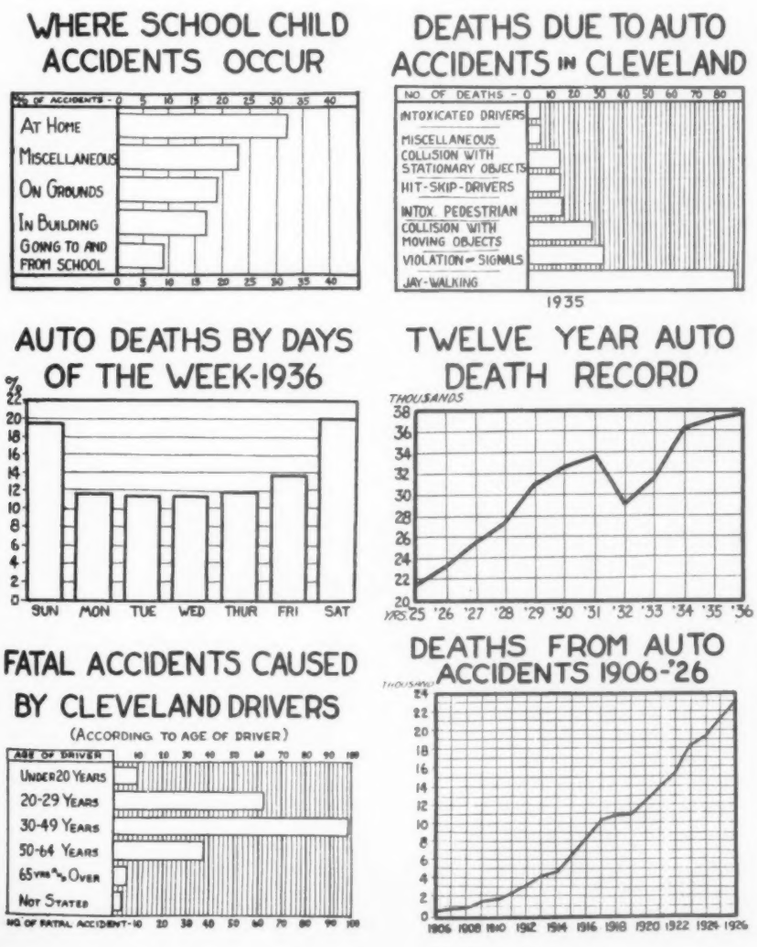
The address of the Department of Visual Instruction is Box 3046 University Station, Columbus, Ohio.

A New Method of Quantity Production of Graphs and Diagrams on Lantern Slides

By WILLIAM M. GREGORY,
Director, Educational Museum, Cleveland Public Schools

THE need for large numbers of duplicate lantern slides for city wide radio lessons in Cleveland has been met by rotoprinting on transolene. This process suggested by H. A. Bathrick, Assistant Superintendent of Cleveland Schools, is now in use and is proving most satisfactory in low cost and in efficiency.

This new process uses the rotoprint for printing diagrams, sketches, pictographs, and graphs on transparent transolene at a cost of twelve cents per lantern slide. Transolene is transparent, heat-resisting, moisture-proof, and absorbs a special ink which produces an opaque line. The sketches are first carefully drawn and then photographed on an aluminum plate. Six slides (see cut) are printed on each sheet of transolene. This sheet is then cut into regulation lantern slide size and each piece mounted between two cover glasses. It gives a clear diagram when projected on the screen.



The above process has an advantage over the photographic method, in speed and cost. It is cheaper than the lantern slide produced on celluloid or cellophane by drawing or typing with carbon paper. The material is inexpensive, and makes it possible to distribute widely diagrams, statistics, and other materials throughout a school system. The material can be easily revised and frequently renewed at little expense.

With this process, illustrative slides showing sketches, graphs, or pictographs, can be made to function closely with the various units in the course of study. This is especially valuable when the curriculum demands up-to-date material and thousands of duplicates for current lessons and for radio broadcast lessons. In Cleveland the Educational Museum recently provided four thousand slides of this kind for elementary science and junior high school mathematics.

This method will find a wide use in supplying quantity material for counties and large school systems, especially for direct instruction, for testing and for guidance in getting new ideas in operation. The writer will supply further information on request.

The Relationship of Acquired Information or Knowledge Obtained from Certain Educational Motion-Picture Films to the Intelligence, Grade, Age, Sex, and Type of Educational Training of the Pupils

Being an Abstract of Thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the School of Education of New York University, 1937

By ARNOLD W. REITZE
Jersey City, New Jersey

THE PROBLEM: The problem of this study is to show the relationship between acquired information or knowledge obtained from certain educational motion picture films and the intelligence, grade, sex and type of educational training of the pupils. This is an experimental investigation limited to these various phases of comparison.

Limitations of the Problem: It is limited to discovering the relationship between the pupil's factual perception obtained from certain educational motion-picture films and the intelligence, grade, age, sex, and type of educational training of these pupils.

No attempt will be made to prove the value of motion-picture film as a factor in education. Neither will the study attempt to compare or evaluate various techniques for the use of educational film.

Need for the Study: The need for further study of this aspect of the motion picture in education, as well as other phases, was made obvious by the marked increase in the use of educational film within recent years.[1] Available data effecting the use of such film has not kept pace. No other extensive study has been made whose primary purpose has been to compare the knowledge obtained from educational films with the intelligence, grade, age, sex, and type of educational training of the pupils.

Similar Studies: A careful survey of educational books, periodicals, and research studies discloses few investigations resembling the present research. There are many studies dealing with numerous phases of visual aids and motion pictures in education and a number of these touch upon some aspects of this thesis. However, there does not seem to be any study covering exactly the same phase of the use of educational motion-picture film.

Sources of Data: The results of an actual experiment are the chief sources of the data used in this research. Data were obtained, also, from educational books, periodicals, and research studies.

Method of Attack: The principal method of attack used in this study was experimental. Two educational motion-picture films were presented to various representative classes in the Jersey City public schools, which classes were then tested for film comprehension. All classes were tested, also, for intelligence as a means of obtaining a standard for later comparisons.

Groups Tested: After a careful study of the factors involved, it was decided to use four classes of each regular elementary grade from the second through the eighth, and two classes from each high-school grade. Also, a number of prevocational, vocational, and adult classes were used, since these were composed of pupils with different types of educational training. In order to have these classes representative of the whole school system, several different schools were chosen. Only one high school was used, but the fact that it draws pupils from a wide area makes it representative of the whole high school population. The schools used include a wide range of pupils of varying social backgrounds and nationalities, and are typical of an average school in a cosmopolitan city.

Tests: Considerable preliminary work was done to select and formulate the best tests for this study. Many forms of intelligence tests were considered and expert advice sought before the final selection was made. As there are no established film-comprehension tests, it was necessary to devise those used in this study. These were formulated with the advice and assistance of a number of teachers, principals, and supervisors. Furthermore, a preliminary test was prepared and given to a number of classes before the final tests were evolved and printed. In the final form, these tests had forty multiple-choice questions. Of this number five questions specifically tested observation of details, five others tested reading ability, and another five tested film comprehension.

Administering the Tests: For the sake of reliability, all intelligence tests were administered by a teacher trained in this work. The film-comprehension tests were administered by the classroom teacher according to a set of printed instructions, and under the personal direction and supervision of the investigator.

The first week, each group was given an intelligence test. The second week, they were shown the first film and given the first film-comprehension test. The third week, the second film was shown and the second film-comprehension test was given.

Scoring the Tests: The scoring of all intelligence and film-comprehension tests was done by the investigator. In addition to marking the papers for the total number of correct answers, each film-comprehension test was marked for the number of correct answers to each of the five questions dealing with observation

[1] Cline M. Koon, *Motion Pictures in Education in the United States*. Chicago: The University of Chicago Press, 1934, pp 58-59.

of details, reading ability, and film comprehension.

Recording the Tests: All scores were carefully recorded on special record sheets devised for this purpose. Only those tests were recorded of pupils who had taken all three tests and the papers were ranked from the highest to the lowest IQ. Each paper was given an identification number by means of which it is possible to locate any pupil and any particular class. The data recorded include:

The group or class and school tested.

The identification number.

The sex of each pupil.

The age in years and months.

The IQ and IQ rank.

The rank on each film-comprehension test.

The total score on each film-comprehension test.

The total score on each film-comprehension test of the questions for observation of details, reading ability, and film comprehension.

From these facts given on the record sheets, and as a result of certain calculations, other information was obtained and placed on data sheets. These sheets contain, for both boys and girls, and the two combined:

The class or group and school.

The number of tests used and discarded.

The range of intelligence, and, of both film-comprehension tests.

The IQ rank of the pupil with the highest score in each film-comprehension test.

The mean IQ's of all tested, the group above 110, from 90 to 110, and below 90.

The mean scores of both film tests for the group as a whole, the IQ group above 110, from 90 to 110, and below 90.

The mean scores of the total group and each IQ group on the five questions for observation of details, reading ability, and film comprehension.

For further convenience and ease in interpretation certain of these data have been grouped and placed on summation data sheets. The information given on these sheets include:

The group and school tested.

The number of pupils tested.

The mean IQ of the whole group and for the IQ classifications above 110, from 90 to 110, and below 90.

The mean scores for each of the sets of questions for observation of details, reading ability, and film comprehension.

Selection of Films: Two films were selected, as nearly alike in the difficulty of their content as possible. The films were selected to give representation to different kinds and types of educational films. Two distinct types, one on history, and one on geography, were used. Each film is edited in a manner characteristic of a certain educational film producer. They are typical of those produced by two of the largest educational film companies.

For the subject of history, reel one of *Daniel Boone*, of the Chronicles of America Photoplays, produced by the Yale University Press was selected. This film uses the dramatic form of presentation, yet is accurate and authentic in its subject matter.

The geography film chosen was the Eastman Classroom Film, *Wheat*, produced by the Eastman Teaching Films. This film differs from the film *Daniel Boone* in that no attempt is made to use the dramatic form of presentation, but, rather, a logical development of the subject is followed.

Presentation of Films: It was deemed advisable to present the films without regard to their value as a lesson, or without any attempt to emphasize the films as a part of the classroom work. In their showing, no attempt was made to have an ideal situation. The films were shown under usual classroom conditions. The sizes of the groups, which determined the room to be used for the presentation, ranged from one to five classes. The films were shown without comment either before, or after their projection.

Evaluation of Data: As the classes selected for this research were representative and typical of the larger group or whole school system, the evaluation of data and the comparisons may be considered reliable.

Comparisons: Many comparisons can be made from the record, data, and summation data sheets. While the data of each class are given separately, the data of all similar classes are combined so that larger and more representative groups can be compared.

Comparisons can be made between and within any individual classes or any group of classes, on the results of the film-comprehension tests as a whole, and on the questions for observation of details, reading ability, and film comprehension. Similar comparisons can be made based on the full range of intelligence and for those of superior, normal, and below normal intelligence. Other comparisons based on grade, age, sex, and type of educational training can be made. Another form of comparison is made between types of educational films.

Conclusions: *General.* The definite value of educational motion-picture films in general, as shown in other studies, seems to be substantiated by this research. When it is considered that the films were shown without any preparation or discussion, either by the teacher or the pupils, the scores of the film-compresension tests are relatively high. This is true regardless of such factors as grade, age, or intelligence. This seems to indicate that pupils gain considerable information from a single exposure to a film, and, therefore, the educational film is a most effective aid to teaching.

Intelligence. In considering the relationship between the educational films and the intelligence of the pupils, the mean scores on the film-comprehension tests generally improve with the increase in intelligence. The data shows that, for the most part, those of superior intelligence are also superior on the film tests. This better showing holds true for both boys and girls. It would seem possible to conclude that, in general, an increase in intelligence means an increase in the mean scores of a film-comprehension test.

While the data show that the highest IQ group acquire the most from the films, nevertheless, films are, perhaps, more worth while to those of low IQ. In fact, even though the IQ remains quite static, the film scores of those of low IQ increases as the pupils be-

come older. There is comparatively little difference in the actual scores of those of high IQ and those of low IQ. This seems to indicate that, relatively, the lower IQ group gains more than the higher IQ group. It seems, therefore, that it is worth while to use more films with all groups, but particularly with the over-age and mentally retarded groups.

Grades. There is a definite increase in the film scores, as a whole, from the second to the eighth grade. After this grade, the scores remain quite stable and constant. The data show that the upper grades receive the highest mean scores. However, this is not conclusive evidence that these classes gain the most from educational films. The difference between the scores of the lower and higher grades is slight, which seems to indicate a relatively greater gain for the lower grades. The general effectiveness of educational films with the lower grades seems to warrant a more extensive use of educational films in these grades.

Age. The data show that most older pupils receive a higher score than the younger pupils. For most of the items on the film-comprehension tests, those over eighteen have the highest mean scores. This is so for the group as a whole, as well as for those with an IQ range of 110 to 90, and for those below 90 IQ. For the IQ group above 110 the thirteen-year-old pupils make the best showing. As the lower IQ and over-age groups do relatively better than the normal-age and intelligence group, it would seem to indicate the worth-whileness of using more educational films with these groups.

Sex. In practically every case the data show that boys are superior to the girls on the film-comprehension tests. This holds true in spite of the fact that girls are slightly superior in intelligence. This is true, also, for both subjects of history and geography. It therefore, seems desirable to use educational films with groups of boys and men as they seem to acquire information more readily in this manner. However, with questions requiring reading ability, the girls are slightly superior.

Type of Educational Training of the Pupils. The data show that there are gradual increases in the mean scores of the film-comprehension tests in all regular classes from the second through the eighth, with the high-school classes remaining stationary. Other conclusions may be drawn regarding certain special classes. The vocational classes rate higher than any other group, with the exception of the high school college preparatory classes. They rate higher in spite of the fact that these classes are considered below the standards of scholastic ability of even the regular elementary classes, and this particular group has a mean IQ of only 98.4.

The prevocational classes, whose scholastic abilities are lower than the vocational classes, also make a better showing than the regular elementary and high-school classes. These facts seem to indicate definitely the need and practicability of using more educational films with such groups.

The pupils who show the best results on the film-comprehension tests are in the high-school college preparatory classes, which seems to indicate the value of educational films for this group.

The adults in the college class do about as well as the high-school college preparatory class. This seems to show that such a film is not particularly effective with such a group. However, due to the smallness of the group tested, any valid conclusions are impossible.

Although the primary grades do not actually score as well as the higher grades, it is believed that, relatively, they gain a great deal more. It would appear to be highly desirable to use educational films in these grades.

Types of Educational Film. An outstanding conclusion which the data show is the superiority of the dramatic type of film. In practically every case, the higher mean scores were received on the film *Daniel Boone,* which is a film presented in a dramatic manner.

Types of Film Questions. The data on the various kinds of film questions used in the comprehension tests indicate the need to train pupils to view properly motion-picture films. There is particular need to train pupils in the observation of details, and to grasp the significance of the film as a whole.

Summary. One of the facts brought out by the preliminary study of the problem is the rapid growth in the use of educational motion pictures within recent years. Another important fact is the economy of using educational film.

While these phases have been brought out in the preliminary study, a number of important facts have resulted from the actual experiment.

It has been shown that intelligence seems to have a direct and definite bearing on film comprehension. In other words, in practically all cases, the higher the IQ, the higher the mean film score.

Age, also, has a marked influence on film comprehension as the older pupils do better than the younger pupils. So, too, has the grade of the pupil an effect on the film scores as the higher grades receive better scores than the lower grades.

The type of educational training of the pupils also seems to influence the scores of the film tests. One of the most interesting results is that such groups as the vocational classes lead the regular grammar and high-school classes and are surpassed only by the high-school college preparatory class and the college class of adults.

Yet, in spite of the higher showing made by the upper intelligence groups and upper grades, it seems that the lower intelligence groups and grades gain relatively more from educational films. Therefore, it appears practical and logical to use more such films with the lower grades and with pupils of low IQ.

The type of film which gives the best results seems to be a film which is dramatized and contains enough simple titles to be self-explanatory. This fact should be worth while to those producing and selecting educational film.

These are some of the important comparisons and conclusions which the data of the study seem to warrant. In general, the research definitely shows the value of educational films for all pupils and specifically for certain pupils.

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NEWS AND NOTES *Being brief notations on significant doings and events in the visual field.*

Conducted by Josephine Hoffman

Regional Visual Education Meetings

The New England Section of the Department of Visual Instruction of the N. E. A. announces its ninth annual meeting on Saturday, May 14th, at the Children's Museum in Jamaica Plain, Mass. The theme of the conference this year will be "Ingenious Devices Made by Teachers and Pupils for the Teaching of School Lessons." These devices will be on exhibit and each teacher will explain how his device was made and used in a specific teaching situation.

More detailed information will be furnished by Carleton W. Erickson, President of the New England Section and Director of Visual Education, Public Schools, Greenfield, Massachusetts.

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Announcement has just reached us also of a regional Visual Education Conference April 29th and 30th at the Pennsylvania College for Women, Pittsburgh. Among the names noted on the program are: Charles F. Hoban, Jr., American Council of Education, Washington, D. C.; Ben G. Graham, Sup't of Pittsburgh Schools; Wilber Emmert, Indiana State Teachers College; Fanning Hearon, Division of Motion Pictures, United States Department of the Interior; Henry Klonower, Director Teacher Bureau, Department of Public Instruction, Harrisburg; Alice V. Keliher, Chairman on Human Relations, Progressive Education Association; William Yeager, University of Pittsburgh; and V. C. Arnspiger, Erpi Picture Consultants. Presiding at the two sessions will be Herbert L. Spencer, President Pennsylvania College for Women, and John A. Hollinger, Director of Visualization, Pittsburgh Public Schools.

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The University College of Northwestern University plans to hold a conference on *"Visual Education and the Adult"* on Friday evening and Saturday, May 13 and 14, in Thorne Hall on the Chicago campus. The topic for Friday evening is "Visual Aids in Industry." Saturday Morning from 9:00 to 10:30 the topic discussed will be "Visual Aids in the Community Program," and from 10:30 to 12:00, "Visual Aids in the College Program." All of these meetings are open to the public.

There will be a Round Table Luncheon which is to be a closed meeting of specialists and representatives of different departments of the college to discuss the inauguration of their visual aids program for next year. On Friday evening and during Saturday there will be informal screening of appropriate material. For further information call or write Dr. G. L. Freeman, Northwestern University College, 313 E. Chicago Ave., Chicago, Ill.

◆ ◆ ◆

Huge Aquaria Built in Florida

The world's largest aquaria and a specially designed underwater motion picture studio have been constructed by Marine Studios at Marineland, Florida, which will present a dramatic and fascinating picture of submarine life, and provide excellent facilities for undersea motion picture work. Two large tanks, known as "Oceans in Miniature," will house live specimens of large and small fish and aquatic mammals in natural surroundings insofar as Marine Studios are able to duplicate conditions existing in the open sea. For example, a coral garden is built right in the tanks to afford the highly colored coral fish safety from their enemies. Various sea grasses and sea weeds grow from the bottom of the tanks thereby affording protection for certain small forms such as the pipe fish.

To meet the problem of transporting the larger species of fish, a method of injecting a drug through a hypodermic needle was developed which could be administered without injury to the victims.

The construction of the tanks will permit visitors an undistracted observation and study of marine life. One tank is 100 feet long, 40 feet wide and 18 feet deep; the other is circular, 75 feet in diameter and 11 feet deep. Enclosed galleries run at different levels around the entire perimeters of the two tanks. Each of the galleries faces inward upon a circle of glass portholes in the sides of the inner tanks in which the fish will be displayed. The portholes are placed in such a way as to make it possible for observers to look into the tanks from four different levels.

The design of the tanks was recommended by technical motion picture experts who with the greatest care worked out in advance the various camera angles that would be necessary to afford producers the greatest latitude and leeway in the filming of scenes.

Credit for this unique enterprise goes to Mr. W. Douglas Burden, an associate of the American Museum of Natural History and President of Marine Studios, Mr. Roy P. Gates, associated with him, and Mr. Ilia Tolstoy, grandson of Count Leo Tolstoy.

INFORMATION WANTED

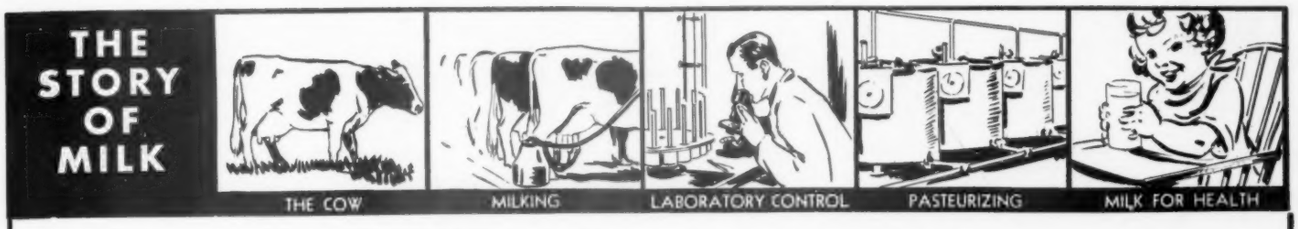
on

Summer Courses In Visual Instruction

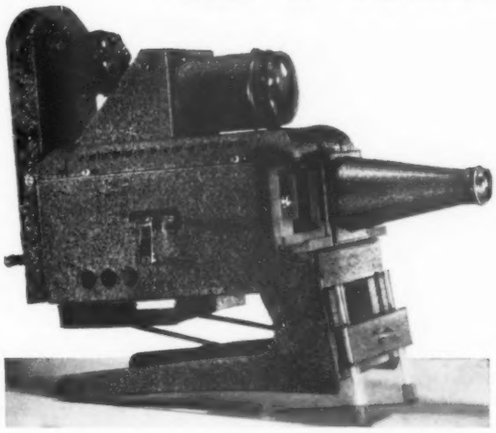
Next month The Educational Screen will print a complete and nationwide list of these Summer Courses—giving *subject, place, time, and instructor.*

We urge our readers to send in data on any course planned for the coming summer which has come to their knowledge. Such reader cooperation has kept this list growing every year.

A Postal Will Suffice.



Unit Teaching is at its best with a SPENCER DELINEASCOPE



The story of milk from farm to doorstep is but one of the hundreds of fascinating Units of Work. However, regardless of subject, vivid illustrations are necessary to stimulate maximum pupil interest and attention.

Obtaining suitable illustrations in sufficient quantities for class distribution is generally difficult and expensive. Single copies, projected with a Spencer Delineascope, save time and money—making available to the entire class, the unlimited supply of illustrative material to be found in school libraries, newspapers and periodicals. The result is a more vivid presentation of the subject and greater pupil interest.

For better grades and fewer failures investigate the effectiveness, wide scope and flexibility of the Spencer VA Delineascope which projects both lantern slides and opaque materials.

Write Dept. D12 for information on Spencer visual education equipment.

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Survey On The Utilization Of Visual Aids

An elaborate questionnaire effort has just been completed by the Victor Animatograph Company to determine—for their own purposes and for any others interested—"what films the schools are now using and by what means they are correlating them with their teaching programs." While other visual materials figured in the Questionnaire, the emphasis was on films. The questions covered teaching techniques, administrative arrangements, teacher training facilities, and provisions for keeping in touch with new developments in the field.

A list of 10,000 names, selected from the National Visual Education Directory published by the American Council on Education in 1936, received the Questionnaire. A return of 7% was obtained. Towns of 1000 population or less supplied 65% of the returns; 1000 to 5000, 29%; 5000 to 100,000, 6%. The tabulation of returns brings out interesting percentages, some startling. The validity of these figures must necessarily be relative, since they base on the 7% return which came largely from the most progressive and prosperous schools, without doubt. Were a 100% return available many of the percentages would show an enormous rise or fall. We list below a substantial part of the findings, in percentage of the schools replying.

82% own and use Maps, Charts and Graphs.
42% use stereographs; 30% have school museums; 26% use the School Journey.

(*Concluded on page* 139)

From The Laboratory Of

PROF. I. V. PAVLOV

(Nobel Prize Winner)

Comes A Study Unsurpassed In Thoroughness On The Subject Of

The Nervous System

A 16mm Silent Film in 5 Sections

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AMONG THE MAGAZINES AND BOOKS

Conducted by Nelson L. Greene

Chicago Schools Journal (January, February, 1938) "Photo Slides as a Teaching Aid" by Victor D. Moseley of the Moseley School, Chicago. Describes an effective effort to teach "Safety" by slides of the school's own make. Twenty subjects were chosen, two photographs made on each, one of the "careless act" and one of the "result." The forty slides were made, shown repeatedly through the year and ardent discussions ensued at every showing. Interest was greatly increased by the personal nature of the pictures, pupils often appearing themselves in the scenes. The writer urges such pictures for many curricular topics.

Progressive Education (January 1938) "New Marine Aquaria in Florida Marine Studios" is a good, detailed description of this recent enterprise, one of the most impressive developments for production of visual material in recent years. Its potential values for the teaching field in Biology and Zoology could hardly be exaggerated. (See page 126 for an extended note on these Aquaria.)

"The Making of Natural Habitat Exhibits" by Lillian D. Kennedy of the Science Department of Woodrow Wilson Jr. High School, Tulsa Oklahoma. Two pupils worked together, with a mutual interest in (1) the particular kind of animal to be depicted, and (2) the locale proper to that animal. Research then began. What food? Forests or grasslands? Vegetation sparse or plentiful? Rainfall? Temperature? Altitude? Latitude? Longtitude? Seasons? Winds? Much discussion with each other, with others steadily modifying concept to final form.

The combined projects ranged over Arctic, Antarctic, jungle, desert, marsh, mountains, plains, hills, farmlands, water surface and submarine. Each maker reported before student assemblies, showing maps and presenting references, inferences and conclusions. The work was done in ordinary class rooms, with fixed desks, work materials shared and mutual assistance cultivated. It was a notably successful socializing experiment by visual methods.

Scientific American (February 1938) "Double Featuritis," an editorial. The editor steps a bit outside his field to score the current habit of double features. It has brought on mass production of cheaply made feature pictures in such quantity that quality has to be sacrificed. Result, " a flood of movies that insult the intelligence of a large proportion of the movie-going public." (Doubtful how "large" this proportion is.) Public can stop it by doing "the same thing that it did not so long ago regarding smut on the screen." Namely, protest! "When collective protests are loud enough and vehement enough, results will follow." (But the protest needs organization on a national scale with some great authority behind it, or it will be futile. The job done "not so long ago" was done by the Legion of Decency with the Catholic Church as prime mover, and several other churches cooperating.)

Buffalo Courier-Express (March 6, 1938) "Visual Education Is Seen Most Valuable in First Two Grades," a newspaper report by Miss Mary A. Cummins, principal of School 68, Buffalo, New York.

Miss Cummins tells an inspiring story of how the projection lantern makes reading a real adventure for children in the first two grades. "Our problem as teachers of children who are learning to read is how to get enough material on their level, offering a wide range of interesting subject matter," Principal Cummins said. It is practically impossible financially to provide each child with enough complete sets of books. By using the opaque projector, only one or two copies of books is needed to solve this problem. "The material is projected for group reading on a screen that is large enough for every child to see clearly. In this way, 25 different books can provide 25 different experiences for the same cost as one set of 25 books, all alike, which have one experience to offer and are quickly read."

The informal atmosphere such a procedure creates, encourages the children to more self-expression. "When the children are first learning to read," said Miss Cummins, "they tell stories about the pictures, stories that suggest themselves to the children as first hand experiences induced by the picture itself. The teacher easily can lead up to the reading experience by the suggestion, 'Let's see what the man who wrote the book had to say about this picture." Further, this method provides the child with material for thinking and forming his own judgments.

Not only do the first two grades find the opaque projector invaluable to their study, but other classes in the school find their subjects enriched by its use.

School and Society (47:119, Jan. 22, '38) In his article on "College Geography Text-Books," Mr. Robert B. Nixon asks why the authors of geography texts for colleges have not listed visual materials at the ends of their books, which could be used in collaboration with the texts. This department has long desired writers of school books for all ages to carry out this suggestion. Mr. Nixon asks especially for films which are reasonably scientific and which will make regions and countries live in our minds.

Movie Makers (13: 72, Feb. '38) "Recording the College," by Edwin Schwarz.

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the public, it can present a unified résumé of campus affairs that will give undergraduates a better understanding of the college and it will bring back pleasant reminiscences to alumni." The author emphasizes the advisability of making a filming plan in advance of visiting the college. Several ways of presenting the story of life at college are described concisely.

International Journal of Religious Education (14: 12, Feb. '38) "The Use of Motion Pictures in Religious Education," by Mildred MacFarlane.

No religious education director should overlook the use of motion pictures in connection with the work of the church school after reading this stimulating account of the significant results obtained with films in a Lenten program on the missionary work of the church. The subject was "Christian Heroes in Many Lands." The teachers were supplied beforehand with information sheets which gave the aims of the pictures, the story of the film, how to approach the discussion of it, and a story of the hero for whose life the picture provided the background.

A class in Movie Appreciation can offer a really religious contribution, also, if the teacher will use the students' natural interest in movies to promote an interest in the teachings of Christ.

Sight and Sound (Volume 6, Winter 1937-38) This publication always affords interesting reading—in the form of articles, film reviews and general news notes—on what is happening in the film field abroad, with particular reference to England.

One of the articles in this issue, "Actuality in Education," by Catherine Fletcher and G. J. Cons, presents a vital teaching method, whereby the children make their own investigations of life in the neighborhood in which they live. This actuallity study gives more significance to films on related subjects, which later are shown to them, as well as a wonderful opportunity for film-making by the children themselves.

In "Psychology and the Educational Films," Dr. W. B. Inglis points out that although a considerable amount of psychological study has been devoted to examining the value of the film as a teaching aid, this field of study is far from being exhausted. There have been enough mass experiments on the general value of the educational film, but there is need for the examination of individual variations in film-learning, ways in which films may best be used, and the content of films. "A host of questions requiring the application of scientific method for their answering will arise when consideration is given to the widespread use of sound and color."

"Light-hearted Vikings," by H. Forsyth Hardy, tells of progress in the film industry of Denmark and Norway. Most of the Danish films are flimsy, light-hearted comedies, economically produced, with natural backgrounds utilized. The Government is taking an increasing interest in film production and makes a yearly grant to the industry for the purpose of producing educational films. Norway is one of the smallest countries in the world to undertake independent film production, the majority of the cinemas being municipally owned.

Book Review

EXCURSION IN MATHEMATICS, by Ernst R. Breslich, Associate Professor of the Teaching of Mathematics in The University of Chicago and Head of The Department of Mathematics in the University High School. (Published by The Orthovis Company, Chicago, 1938, Cloth, $1.20).

Here is an engaging little blue-covered, 45-page book, most attractively bound in the modern plastic style to let the pages lie flat, that offers the most appealing, gentle and scholarly introduction to the fundamentals of geometry we have ever seen. It is written in beautiful English, in a charming style, and with a deft reader approach rare in textbooks. *Excursion in Mathematics* is likely to supplant any young student's fear of geometry with eagerness, appreciation and understanding.

"A knowledge of the basic facts of geometry is more necessary in present day life situations than ever before," says Dr. Breslich, and he proceeds to build that conviction in the young reader's mind from the first page on. Daily life is beset with questions of "How high?," "How long?," "How wide?," "How much does this container hold?," which only geometry can answer. "We live in a world of geometry. Geometric forms are everywhere"—and this genial teacher lists a few of the hundreds familiar even to the child, until the young reader, however sceptical, succumbs contentedly and decides to read on. It might even be "fun" to learn how to answer these questions!

Then follow the methods for thinking through these problems and the simple formulas are developed for handling dimensions, areas, and volumes of the geometric figures—circle, triangle, cube, parallelopiped, cylinder, pyramid, cone and sphere. The smoothness and pertinence of the written text not only makes welcome reading but clarifies thinking and allays the mathematical fears that have tormented generations of youngsters. Yet Dr. Breslich does not leave the whole burden on the verbal text. He makes extraordinary use of visual illustration. The twenty-one feature pictures are each full page width and about two thirds of a page deep. They are made actually stereoscopic by two color printing. From the original stereographic camera's double picture a copper half tone is made of each view. The right-eye view is printed in blue and the left-eye view is printed in red upon the first, in exact register. When the Orthoscope—simple cardboard spectacles with red and blue lenses, carried in an inside cover pocket in each book,—is held before the eyes, the red-blue picture appears in normal color tone and in startling "three dimensions." The utter reality of this stereoscopic vision makes for true percepts of solids, geometric volumes, conic sections, etc. Below these the main object or theme of the picture appears again, drawn in simple geometric line form, with a brief summary conclusion in text beside it. And to complete the visualization of the entire text, more than fifty marginal drawings, beautifully done, illustrating perfectly objects and situations described by words in the text, add both charm and definite teaching value to the book. Truly, *Excursions in Mathematics* is a distinctive contribution to the literature. N. L. G.

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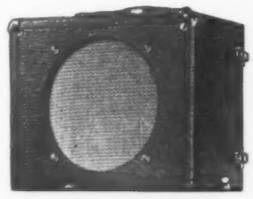

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Some Teaching Tragedies

By C. F. HOBAN

Formerly Pennsylvania Director of Visual Education

"OF ALL sad words of tongue or pen,
The saddest are these: It might have been."

I have often thought of John Greenleaf Whittier's pronouncement, since first reading it as a boy, because of its application in so many fields. For some time I have been convinced that it finds valid expression in the field of visual-auditory instruction because, it seems to me, there are so many tragedies in the instructional processes, curriculum procedure, and administrative functionings of the school systems of our country. (All statements herein made are based on personal experiences, investigations and contacts with teachers and school administrators.) I have many, many times shared Maud Muller's feelings when I have seen school groups make a mere lark, a boy and girl affair, or a travesty of the school journey or field trip. This is notably true of many so-called "Educational Journeys" to national or state capitals, museums, shrines and art galleries. Then witnessing these travesties—no objective, no organized procedure, little or practically no interest, no serious study or discussion—I have been filled with disappointment. One cannot be eye-witness to effective, purposeful school journey performance without a feeling of inspiration, and there is nothing more depressing to an observer than the lack of an organized procedure. Much commendable school journey work is being carried on in the United States; but the deplorable fact is that so few of the total number of school districts in the nation make use of this valuable avenue of instruction—this is tragedy number one.

A second lamentable tragedy is to find in school buildings, and I say in school buildings advisedly, valuable apparatus—science equipment, stereopticons, object materials—stored in some room, unused and too frequently covered with dust. This condition, common in too many school districts, is one reason why verbalism is rampant, why instruction is abstract when it could be concrete and meaningful. A corollary to this condition is the number of school buildings without adequate equipment.

Equally tragic is the condition in too many teacher-training institutions where attempts are being made to prepare teachers for the schools of the country without visual or auditory equipment. This statement is borne out by the testimony of college graduates but can easily be substantiated by applying the professional yard stick. Such a piece of measuring apparatus is found in the requirement for Pennsylvania colleges and universities accredited to offer a course in the "Techniques of Visual Aids," as adapted to an average or local school system. The requirements are as follows:

1. Modern blackboard and modern bulletin board.
2. Modern filing case and the materials necessary for cutting, mounting, and filing flats, sketches, graphs, etc.
3. Budget provisions for conducting school journeys in elementary and secondary school subjects.
4. A colection of—(a) stereographs, typical of the different subjects, and at least six stereoscopes; (b) some mounted flats for use in each elementary and secondary school subject; (c) lantern slides, plain and colored, sufficient for intensive study needs in each subject; (d) a supply of 16mm motion picture films, typical of various school subjects (these may be borrowed or rented); (e) a supply of film strips for the subjects they especially enrich.
5. The following standard projectors—glass slide with film strip and film slide attachments, 16mm motion picture, opaque.
6. A complete splicing outfit for repairing films.
7. A slide-making outfit.
8. A good screen.
9. A still picture and 16 mm motion picture camera.
10. A collection of object-specimen-model materials for use in the different school subjects.

If the above measuring standard were applied to the teacher-training institutions in the United States, it would be interesting to know just how they would rate—and the time has arrived when the teaching profession and patrons are appraising these institutions and demanding adequate equipment.

A fourth tragic condition is that one, far too

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prevalent, where schools are provided with stereographs and slides but where teachers rarely use them—or when used, there is little if any evidence of effective technique. In this latter connection ,I mean when slides are shown without relation to curriculum. As an illustration of the latter statement, I have a vivid memory of a conscientious teacher who always tried her best but suffered from lack of training in the technique of pictorial presentation. She taught sixth and seventh grades and on this occasion combined her classes for the study of Hiawatha. Her presentation consisted of showing a series of slides with comments by the teacher. As I remember, there was little or no discussion by the pupils. Among the slides shown were Longfellow's birthplace—a dilapidated frame building in Portland, Maine; his Cambridge home; grave Alice, laughing Allega, golden haired Edith; the old clock on the stairs; the Village Smithy; Indians with war paint and weapons; Indians with horse-drawn travois, migrating. Only two of the slides were in any way connected with Indian life and I was at a loss to know how this serious-minded teacher expected those sixth and seventh grade pupils to get any understanding of that wonderfully interesting story of Indian life that Longfellow tells in Hiawatha. Could the slides, the stereographs, the pictures that repose in filing cabinets and boxes, be used effectively—at the proper time and in a skillful way—what a different atmosphere would pervade the school rooms of the country and what a difference it would make in the instruction to which the pupils in our schools are exposed!

Maud Muller's tragic situation finds its counterpart in these schools—and there are myriads of them —where valuable collections of Geology specimens: rocks, building stones, carbons, metals; Botany specimens: leaves, plants, noxious weeds, woods, fungi, fruits; Foodstuffs: cereals, beverages, sugar, fruits; Clothing materials: cotton, silk, wool, linen, rubber; Shelter materials, etc., are collecting dust in locked cases, basements and dark rooms. The school museum is a much neglected activity in the schools of the country—and yet it is one of the greatest contributors to meaningful instruction of all the visual aids. If teachers would but use the abundance of object materials available, what a benefaction they would contribute to the preparation of girls and boys for competent social living. In any discussion of object materials, there always comes to mind a pathetic picture. It is that of a mature man—a vocational teacher—in attendance at a summer session at a state college. I was discussing the values of object materials in instruction and was attempting to demonstrate some causes of verbalism and the cure. I had worked with some words that appeared on the blackboard—malt, latex, travois—and then wrote on the blackboard the word skewer. I called on this matured teacher and said "what do the six letters bring to your mind?" There was no answer. The man seemed embarrassed. I then held up a skewer and said "what have I in my hand?" He answered: "a piece of stick"—no mention of size, color, shape. I pressed with, "the ruler is a piece of stick and so is the yard stick." He amplified

(*Concluded on page* 137)

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Current Film Releases

Disney Color Cartoons in 16mm Sound

From Howard Hill Motion Picture Service comes an important announcement of the availability of five of the famous Walt Disney *Silly Symphony* cartoon comedies in 16 mm sound and color. Titles are: *Grass Hopper and the Ant, The China Shop, Old King Cole, King Neptune, Pied Piper of Hamelin.* National distribution has been arranged by Howard Hill, from whose Oakland (280 Scenic-Piedmont) and Los Angeles (Chamber of Commerce Bldg.,) Cal., libraries prints may be rented. Another source is Ideal Pictures Corporation, 28 East Eighth St., Chicago.

This should be good news to non-theatrical film users as it is the first time that these particular reels have been offered in 16 mm. size. The color is said to be beautifully reproduced from the original 35 mm Technicolor negative.

Recent Castle Films Reviewed

From the large and steadily growing library of Castle Films we are glad to call our readers' attention to the three last viewed by us in private showing. *America's High Spots* (1 reel 16mm sound) is an excellent panorama of some of the outstanding regions of beauty and wonder. The ample selection includes Mount Shasta and Yosemite National Park in California, the Carlsbad Caverns in New Mexico, the Grand Canyon National Park in Arizona, the Yellowstone Park in Wyoming, and Niagara Falls in New York. A companion reel does the same for our great neighbor country on the north. *Canada's High Spots* is an equally fine portrayal in expert photography of Vancouver, the Canadian Rockies, Lake Louise, Banff, Toronto, Montreal, Quebec, the Horseshoe Falls of Niagara and the famous Canadian "Mounties." These scenic summaries, as they might be called, are not only pictorially delightful but the vocal narrative accompaniment deserves special mention. It is done by a pleasing speaker with fine voice and his script is entirely and refreshingly free from attempts at smart humor and wisecracks, which are so generally supposed necessary to "put the film over" but which have so often served merely to vitiate the film's value for serious educational purposes.

The third film is the very special and important release (March 28th) *Germany Invades Austria.* The recent spectacular coup by Europe's great opportunist is pictured vividly and completely. The outside personalities concerned appear — Chamberlain, Blum, Eden, Stalin, Mussolini, Benes, and Hitler himself appears repeatedly throughout the momentous hours. We see Schuschnigg delivering his fiat, that Austria shall remain independent, on the very eve of the decisive move by Hitler. Then, the crossing of the line! The German troops gleefully tear down and carry off the gate bars used to close the frontier roads—a mighty force of infantry, artillery, tanks, flows across bridges, through the countryside, and finally, down the streets of Vienna itself in thundering goose-step amid roaring applause from Austrian Nazis. The cen-

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turies-old empire vanishes in the course of hours. One swift, devastating stroke, without equal in history, adds millions of subjects to Germany and soldiers to Hitler's army. We feel the tremendous import of it all to present day Europe and to future world history, in this resistless rise of force supreme over the wreckage of international law. Our own Cordell Hull adds his statesmanlike comments at the close. The narrative voice throughout this striking film gives excellent accompaniment to the epoch-making scenes unrolled in utter reality before our eyes. The speaker is clearly aware of the right and wrong in the situation and the baleful significance of the cataclysm for the world in years ahead. *Germany Invades Austria* is a film document of genuine value in the historical record. N. L. G.

New Film Sources

Audio-Film Libraries, 661 Bloomfield Avenue, Bloomfield, New Jersey, has been established by James Weiss, formerly associated with Walter O. Gutlohn, Inc. They offer a fine selection of 16mm. talking pictures on a rental basis. Among the subjects noted in their new catalog are *Abraham Lincoln*, starring Walter Huston, *Drake the Pirate*, *Little Men*, *In Old Louisiana*, *A Girl of the Limberlost*, and many short subjects, including travel, sports, musicals, cartoons and comedies.

◆ ◆ ◆

Three new 16mm. silent motion pictures are offered for sale or rent by Elias Katz, 69 Bedford Street, New York City. *Creative Design in Painting*, produced in the Department of Fine Arts, Teachers College, Columbia University, shows Professor Charles J. Martin demonstrating the principles of fine design. In *Lynd Ward at Work* the complete process of wood engraving is demonstrated by the artist. The making of a papier mache mask is presented in *Make a Mask*.

Also available are three abstract films in which light patterns and geometrical forms are synchronized to music. Titles of these sound subjects are *Rhythm in Light*, *Synchromy No. 2* and *Parabola*.

Wonderful NEW

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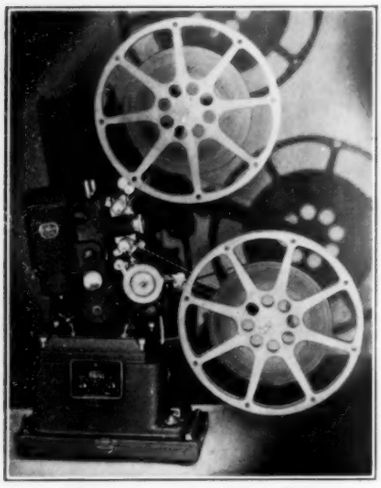
CENTRAL CAMERA CO. 230 S. WABASH, DEPT. 54 CHICAGO, U.S.A. (EST. 1899)

AMONG THE PRODUCERS *Where the commercial firms announce new products and developments of interest to the field.*

Ampro Announces New Projector

Ampro now extends its line with a new, A. C. operated sound-on-film motion picture projector with a 750 Watt lamp projection. This new model "U" is said to have unusual power, having an amplifier output of 15 watts undistorted (30 watts maximum) together with a 12 inch permanent magnet field speaker. It is designed for classroom instruction, auditoriums, industrial sales work, and home entertainment where maximum illumination and performance are required. It is light, compact, portable and is housed in two easy carrying cases — projector with amplifier in one case, the speaker in the other.



The New Ampro Model "U"

Embodied in Model "U" are several new innovations such as a Speaker-Hiss Eliminator which enables the operator to obtain full volume without hiss even at low voltage; and an Amplifier Signal Light which indicates when amplifier is on and also designates location of volume and tone control knobs on the amplifier when rooms are darkened. The Model "U" does not replace any present Ampro model. It is offered to meet the need for a powerful A. C. operated projector where D. C. is not required.

Objectives of DeVry Visual Conference

The conference council composed of L. W. Cochrane, director, L. A. Hawkins, International Harvester Co., Mrs. W. H. Ross, State Chairman, Illinois Congress of Parent-Teachers, Miss Amelia Meissner, Curator, Educational Museum, St. Louis Public Schools, under the direction of Mr. A. P. Hollis, in a recent meeting outlined the objectives of this year's conference. The dates set for the conference are to be June 20-23 inclusive, and the place-Francis W. Parker School in Chicago.

It was decided that this year's conference is to embrace a more extensive showing of worthwhile industrial and educational films; further, that all films to be exhibited before conference groups, this year, are to be previewed before exhibition and judged as to the acceptability for educational purposes. Films will be limited to shorter productions than formerly, in order to permit more time for analysis and discussions, both preceding and following film showings.

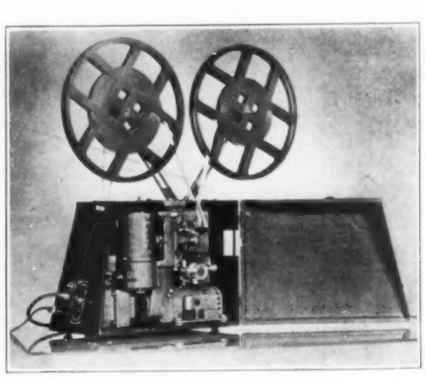
Improvements in the Leica Camera

The new Leica Camera, Model G—1938, produced by E. Leitz, Inc., New York City, offers a newly designed viewfinder and rangefinder system through which the eyepieces of these two units are placed closely together. This enables the user to change from rangefinder to viewfinder with literally a flick of the eye, permitting extremely fast action in making pictures and eliminating change of position of the camera once sharp focus has been established through the use of the rangefinder. The method of placing the rangefinder and viewfinder with eyepieces closely together retains a separate magnified rangefinder image, making focusing quick, simple, and accurate. The camera is still the same size.

Low Price Victor Sound Projector

With the announcement of the new "All-in-One" Model 33 Animatophone, Victor Animatograph Corporation, Davenport, Iowa, introduces a 16mm. sound projector which is claimed to provide quality projection, and sound reproduction, at an attractively low price. Although the machine is the smallest so far introduced, it is said to produce an amazing quality of sound with output sufficient for audiences of up to approximately 250-300 people, when used in a room of appropriate dimensions.

The model comes equipped with a 500 watt lamp, 2″ Fl. 85 projection lens, and hand rewind. A deluxe model with motor rewind, 750 watt lamp, and 2″ Fl. 6 lens will also be available. A standard feature is an input jack for plugging in a high impedance microphone for announcements, or a phonograph turn-table for amplification of phonograph recordings.



"All-In-One" Victor 33

A unique feature of the Model 33 is that it assembles into one compact unit for transporting. For operation, the main unit sub-divides into three integral parts. It incorporates a number of the outstanding Victor features such as automatic film protection device, the multiple-wall lamp house with super-efficient ventilation, and the easy-to-clean swing-out lens mount, and keyed-in-position sound system.

Victor especially emphasizes the fact that the Model 33 is not intended for auditorium use. It is adequate for the home, classrooms, and moderately sized as-

sembly rooms, but for large assembly rooms and auditoriums, the larger 10 watt, 15 watt, and 30 watt models of the Animatophone should be used.

Royal Midget Tripod Ready

Central Camera Company, 230 South Wabash Avenue, Chicago, Illinois, has brought out a Royal Midget Tripod, created in response to the demand for a sturdy midget tripod for table use. The new device is constructed to hold the heaviest cameras at all levels from the very table top itself to 13 inches. It comes equipped with tilting top.

A Bausch and Lomb Optical Achievement

A new photographic lens, called the Metrogon, which enables a single photograph taken straight down from an airplane to show three times as much area as has previously been possible from the same altitude, has been developed by the Bausch & Lomb Optical Co.

The importance of the lens in aerial photography and mapping work was explained by company engineers who said it had previously been necessary to fly higher in order to cover more ground but that the new Metrogon fitted to the camera, a plane can photograph three times as much ground without flying so high as has been necessary with the average lens previously used. Thus haze and other factors introduced by high altitude, no longer prevent sharpness and accuracy in aerial mapping.

Some Teaching Tragedies

(*Concluded from page* 133)

his answer by saying "a piece of stick shaped something like a lead pencil." Then I said, "what is the piece of stick shaped something like a lead pencil for?" He thought for a moment and then answered: "I think it is used for lollipops." A sad commentary on his elementary instruction and his personal opportunities! This man interested me very much. I talked with him at the close of the period. What he said epitomizes what thousands of teachers have told me. He said reproachfully that his elementary instruction was abstract; that in his teacher-training school, there was no visual equipment, no slide material, no collection of object materials. In his science class at high school, the teacher performed all experiments and handled all apparatus. The students were simply spectators, passive participants. This is by no means a rare case. The institutions that have adequate equipment; that provide for effective use—purposeful, organized procedure and such skillful use of visual auditory equipment and materials as will give a maximum of meaningful content to instruction—are still the exception and not the rule. What this gentleman related is one of the greatest tragedies in teaching and it applies to entirely too many elementary, secondary, and college teachers and to too many schools and colleges.

(This article was written in Hendersonville, N. C. My data are in Washington, D. C. If any institution, school administrator, or teacher wishes proof of any statements, it will be gladly furnished upon application to the editor in charge of this department.)

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THE FILM ESTIMATES

Being the Combined Judgments of a National Committee on Current Theatrical Films
(A) Discriminating Adults (Y) Youth (C) Children
Date of mailing on weekly service is shown on each film.
(The Film Estimates, in whole or in part, may be reprinted only by special arrangement with The Educational Screen)

Adventures of Tom Sawyer (Tommy Kelly, Jackie Moran, Ann Gillis) (UA) Elaborate Technicolor screening of Mark Twain classic, with relative emphasis on episodes much changed for theatrical effect. Expertly done. Most pleasing to those knowing book least. Strong in spots. 3-29-38
(A) (Y) **Very good** (C) Unless too strong

Bluebeard's Eighth Wife (Gary Cooper, Colbert) (Para) Lively, hilariously improbable farce-comedy of super-rich, quicer American who stumbles upon French girl in Riviera department store for his eighth wife. Amusing, non-suggestive complications follow, and they wrangle through to happy ending. 4-5-38
(A) (Y) **Very good of kind** (C) Doubtful interest

Bulldog Drummond's Revenge (John Howard, J. Barrymore) (Para) Hectic thriller of London-Paris chase, by auto, ship and plane, after stolen suitcase of new super-explosive, including murders, labored comedy and dull romance. Too much noise, darkness, grewsomeness and clumsy narrative. 4-5-38
(A) Mediocre (Y) Perhaps (C) No

Change of Heart (Gloria Stuart, Michael Whalen) (Fox) Rich, breezy, bad-tempered husband drives charming, devoted golf-champion wife to leave him. Golf-playing rival threatens the marriage till husband has change of heart and starts golf. Engaging caddie and dog are chief plot movers. 3-22-38
(A) Amateurish (Y) Not the best (C) No

Crime of Dr. Hallet (Ralph Bellamy) (Univ) Heroic doctor in Sumatra jungle laboratory seeks needed serum from monkeys. Assistant finds clue, but dies by self-inoculation. Hero takes his name and forges signature to finish work for him. Builds respect for research and sacrifice. 4-5-38
(A) (Y) Good of kind (C) Hardly

Dangerous to Know (Tamiroff, Anna May Wong) (Para) Tamiroff does expert smooth sinister role as arch-gangster who dominates city government and, by framing hero, is on verge of winning social, on top of financial and political supremacy. But his adoring "hostess" proves highly melodramatic nemesis. 3-22-38
(A) and (Y) Strong thriller (C) No

First Hundred Years (Montgomery, Bruce, William) (MGM) Artificial yarn of devoted married pair. He makes only $15,000 a year, but his wife makes money. Shall they live in New York with her, or New Bedford with him? Interlopers, booze, divorce trial, coming baby—and happy ending. 3-29-38
(A) Depends on taste (Y) Doubtful (C) No

Girl of the Golden West (MacDonald, Eddy) (MGM) Long, elaborate screening of the Belasco classic with fine western settings, delightful music and song, and picturesque characters. Romantic melodrama with too many interpolations to be very dramatic. Better acting by the cast than by the stars. 3-22-38
(A) and (Y) **Very good of kind** (C) Beyond them

Hawaii Calls (Bobby Breen, Ned Sparks) (RKO) Feeble story of two little stowaways, San Francisco-Honolulu, naval plans, spy ring—but mainly series of old familiar Hawaiian customs, costumes and backgrounds, with much singing in Bobby's peculiar sentimental, undulating, nasal tremolo. 3-29-38
(A) Hardly (Y) (C) If it interests

Jezebel (Bette Davis, Fonda, Brent) (Warner) Tragic, tensely interesting role by Bette as wilful society belle of old South. New Orleans of 1852 lives again. Fine restraint in tempo and diction. Sets, acting, direction of the best, but "plague" footage is over long. 4-5-38
(A) **Notable** (Y) Mature (C) Beyond them

Judge Hardy's Children (Lewis Stone, Mickey Rooney) (MGM) Fine old country judge, called to high-paid job in Washington, gets self and family badly tangled with lobbyists. Loud, rowdy, overacting son steals picture with his girl-kissing prowess and makes "culture" the butt of comedy. 3-29-38
(A) Perhaps (Y) (C) Dubious taste and effect

Kathleen (Sally O'Neill and Irish cast) (Made in Ireland) Authentic Irish atmosphere, backgrounds, characters and dialog make interesting this domestic comedy and romantic melodrama. Heroine must choose between singing stevedore and wealthy young landowner. Typical Irish songs and dances. Picture technique fair. 3-15-38
(A) (Y) Fairly good (C) Little interest

Little Roughneck (Edith Fellows, Leo Carillo) (Columbia) Raucous, charmless comedy about brazen brat and her nuisance mother, supposedly funny but merely impossible, trying vainly to crash the movies until crude but soulful Spanish peon humanizes the girl. Carillo's good role hardly atones for the rest. 3-15-38
(A) Poor (Y) No (C) By no means

Love on Toast (Stella Ardler, John Payne) (Para) Fluffy blonde heroine, with all the ideas, rules big circle of distinguished, white-haired Soup Company directors. Starts vote contest for "Mr. Manhattan" to marry "Miss Brooklyn"—but he marries heroine! Cake throwing and slapstick "chase" furnish most of action. 3-22-38
(A) and (Y) Absurd (C) No

Mad About Music (Durbin, Marshall, Patrick, Treacher) (Univ) Smooth, appealing, finely acted story of half-orphan heroine, hidden in Swiss school by movie-star mother, but she invents and discovers a father. High in character values, charming singing, and real human comedy. 3-29-38
(A) (Y) **Very Good** (C) **Good**

Merrily We Live (C. Bennett, Aherne, Mowbray, Burke) (MGM) Uproarious slapstick in high life, done by experts. Billie Burke, as nitwit mother in rich home, sets pace. Supposed tramp, taken in as chauffeur, brings endless complications. Thoroughly laughable romantic farce-comedy of daft family. 3-15-38
(A) **Very good of kind** (Y) (C) **Very amusing**

Midnight Intruder (Louis Hayward) (Univ) Destitute hero breaks into empty home where chance enables him to pose as long-estranged son. Later he saves real prodigal from disgrace and restores him to family. Some human interest and entertainment value but incredible and ethics dubious. 3-29-38
(A) Hardly (Y) Doubtful (C) No

Missing Witnesses (John Litel, Dick Purcell) (Warner) Based on recent Dewey investigations, shows brutal racketeer methods, intimidation of witnesses who refuse to testify, etc. Some interest, but situations often unconvincing, and brazen hero and feeble heroine add little story value. 3-15-38
(A) Perhaps (Y) Perhaps (C) No

Over the Wall (Dick Foran, Litel, Travis) (Warner) Inherently decent tenor-singing Irish hero, with hair-trigger fists, is framed by cheap fight-racketeers and jailed. Fine Chaplain cures his riotous instincts, makes him radio-singer, and heroine proves his innocence. Warden Lawes story. 4-5-38
(A) Perhaps (Y) Fairly good (C) Doubtful

Quick Money (Fred Stone, Berton Churchill) (RKO) Heroic, honest mayor defeats efforts of con-man (smoothly done by Churchill) to swindle small town. Mildly amusing little story, with considerable human interest and elementary humor, but too poorly acted to be much worthwhile. 3-22-38
(A) Poor (Y) Hardly (C) Hardly

Rebecca of Sunnybrook Farm (Shirley Temple) (Fox) Title misleading. Worthless uncle exploits Shirley's singing (Sic!) on radio, but she tricks him out of contract to delight and profit of her real friends. Poor use of real little actress in a story to publicize radio and radio technique. 3-15-38
(A) (Y) Fairly good (C) **Amusing**

Romance in the Dark (Boles, Swarthout, J. Barrymore) (Para) Senseless title for lavish musical with fine music, carefully sophisticated situations, and over-complicated plot. Two lady-killers rivals for two women. Bristles with absurdities in character and action. Much comic effort with little spark. 3-15-38
(A) Depends on taste (Y) Sophisticated (C) No

Sally, Irene and Mary (Alice Faye, and others) (Fox) Stale, flat, noisy and unprofitable in music, lyric and dialog. Alice Faye is a queer star, Jimmy Durante has learned nothing, and Fred Allen better stick to radio. Glass smashing and show-boat rioting serve as features. 3-22-38
(A) Stupid (Y) Poor (C) No

Sergeant Murphy (Ronald Reagan, Mary Maguire) (Warner) Engaging hero follows beloved horse sold by father into army, and insures horse's misbehavior. Both out of army, hero trains the fine animal to racetrack victories, wins English steeple-chase and Colonel's daughter for finale. 3-22-38
(A) and (Y) Pleasing (C) **Very good**

Sh! The Octopus (Hugh Herbert, Allan Jenkins) (Warner) Laugh-and-scare thriller melodrama of the craziest, laid in abandoned lighthouse—thick with shivers, suspects, dumb detectives and octopus tentacles. No sense to plot or action. When trite ending comes, nobody cares much. 4-5-38
(A) Elementary (Y) Perhaps (C) No

Ski Battalion (Russian Lenfilm, English titles) (Amkino) Confused, lumbering propaganda about heroic Red company, on skis and in white robes and hoods, fighting to save far-north Russian province from White army invasion. Mostly stolid, benighted folk in brutal, primitive action. 4-5-38
(A) Dull (Y) (C) No value or interest

Slight Case of Murder (E. G. Robinson, Ruth Donnelly) (Warner) Hilarious murder farce that burlesques everything, even police. Beer baron turns proudly legitimate after repeal. Toughest boy character to date. Four corpses juggled around. Crudity, grewsomeness made funny in gangland English. 3-15-38
(A) Absurd (Y) No (C) By no means

Squadron of Honor (Don Terry, Mary Russell) (Columbia) Artificial concoction glorifying American Legion. Denied Legion support for defeating legislation on arms control, underworld big shots frame Legion's commander for vicious murder. Entire Legion deputized to seek and apprehend real killers. 3-15-38
(A) Hardly (Y) No (C) No

Thank You, Mr. Moto (Peter Lorre) (Fox) Quite grewsome mystery melodrama of many murders. Incredibly super-clever detective (Lorre), in violent climax, must himself kill murderer who has stolen priceless ancient scrolls showing location of buried treasure. Chinese sets good. 3-29-38
(A) Depends on taste (Y) Better not (C) No

The Kid Comes Back (Wayne Morris, Barton McLane, June Travis) (Warner) Healthy, wholesome Texas cowboy slugs away, in ring and out, to lose championship but win girl. Blatant dialog by cheap roughnecks, fight game at its lowest and crudest, with little boy admiring it all. 4-5-38
(A) Stupid (Y) No (C) No

Walking Down Broadway (Claire Trevor, Whalen) (Fox) Hectic acts and deafening dialog by six chorus-girls show how gay life can be for cheap people. Accident, two-timing, suicide and murder thin out the group till the one with a brain marries the hero. Smartaleck raucousness. 3-29-38
(A) Cheap (Y) No (C) No

Wife of General Ling (Griffith Jones) (Gaumont-British) Strong, suspenseful thriller, well-acted sinister roles, rather loosely-knit action. Venomous Chinese War Lord, posing as merchant and smuggling arms across British territory, pits his cunning against secret-agent hero, and loses in final grim climax. 3-22-38
(A) and (Y) Strong thriller (C) No

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News and Notes

(Concluded from page 127)

64% own stereopticons; 42% own silent projectors; 37% own sound projectors; 21% own both sound and silent.

65% have facilities for darkening classrooms—from one room only to every room.

36% own slides; 39% own film strips; 13% own silent films; 4% own sound films; 3% own both sound and silent films.

41% rent silent films; 16% rent sound films; 43% rent both.

61% rent from 1 to 50 films a year; 39% rent from 50 to 500.

39% use instructional films only; 9% recreational only; 52% both.

23% use films in elementary grades only; 25% in grades 1 to 12; 17% in Junior High School only; 35% in High School only.

Of films used, 33% are Science, 17% Geography, 17% History, 10% Health and Hygiene, 6% Social Studies, 4% Literature, 4% Travel, and the remaining 9% cover English, Safety, Nature, Music, and Vocational.

For all visual materials, 46% rent; 44% use "free"; 8% purchase; 2% lease.

47% show a film more than once; 34% once only.

62% hold auditorium showings (60% monthly, 32% weekly, 5% semi-weekly, 3% daily).

About 70% prepare classes in advance of showing; about 75% have discussion or activity, or both, following the showing.

59% have teacher comment during silent films; 15% use sound films as silent, with teacher comment; 49% interrupt showings for discussion.

32% have teachers who have taken visual instruction courses.

34% designate visual aids in course of study; 19% have Directors of Visual Education.

48% finance work through Board of Education; 18% by public showings; 13% by student activity; 13% by general school funds; 8% by student tax; (and 32% can expect financial aid from the PTA).

Of owners of sound projectors, 38% use phonograph attachment for music appreciation and speech classes; 50% use public address system for lectures and announcements.

48% of projector owners advise production of both sound and silent films; 45% sound only; 7% silent only.

31% have 16mm motion picture cameras.

The above, and much more material, together with a complete copy of the Questionnaire used on the 10,000 mailing, may be had without charge in an 18-page typewritten form by writing direct to Victor Animatograph Company, Davenport, Iowa. N. L. G.

"1000 AND ONE FILM DIRECTORY"

This standard, indispensable film reference source appears this year in enlarged format, includes more films than ever, more convenient than ever to use. OVER 4000 FILMS for education and entertainment, elaborately classified according to subject with full information given on each film—whether 16mm or 35mm silent or sound, title, number of reels, synopsis of contents, sources distributing the films (240 such sources listed!) and prices charged. Price **75c.**

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Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago
(See advertisement on inside back cover)

Bray Pictures Corporation (3, 6)
729 Seventh Ave., New York City

Cine Classic Library (5)
1041 Jefferson Ave., Brooklyn, N. Y.
(See advertisement on page 134)

Eastin 16 mm. Pictures (6)
Davenport, Ia.
(See advertisement on page 134)

Eastman Kodak Co. (1, 4)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Kodak Co. (1, 4)
Teaching Films Division
Rochester, N. Y.

Eastman Kodak Stores, Inc. (6)
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

Edited Pictures System, Inc. (6)
330 W. 42nd St., New York City

Erpi Classroom Films, Inc. (2, 5)
35-11 35th Ave., Long Island City, N. Y.

Films, Inc. (6)
330 W. 42nd St., New York City
64 E. Lake St., Chicago
925 N. W. 19th St., Portland, Ore.

Garrison Films (3, 6)
1600 Broadway, New York City
(See advertisement on page 127)

General Films, Ltd. (3, 6)
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Walter O. Gutlohn, Inc. (6)
35 W. 45th St., New York City
(See advertisement on page 133)

Harvard Film Service (3, 6)
Biological Laboratories,
Harvard University, Cambridge, Mass.

Guy D. Haselton's Travelettes (1, 4)
7901 Santa Monica Blvd., Hollywood, Cal.

Howard Hill Motion Picture Service (5)
280 Scenic-Piedmont, Oakland, Cal.
Chamber of Commerce Bldg.,
Los Angeles, Cal.
(See advertisement on page 133)

J. H. Hoffberg Co., Inc. (2, 5)
729 Seventh Ave., New York City

Ideal Pictures Corp. (3, 6)
28 E. Eighth St., Chicago, Ill.
(See advertisement on page 130)

Institutional Cinema Service, Inc. (3, 6)
130 W. 46th St., New York City

Lewis Film Service (6)
105 E. 1st St., Wichita, Kan.
(See advertisement on page 134)

The Manse Library (4, 5)
2439 Auburn Ave., Cincinnati, O.
(See advertisement on page 130)

Pinkney Film Service Co. (1, 4)
1028 Forbes St., Pittsburgh, Pa.

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Visual Education Service (6)
131 Clarendon St., Boston, Mass.

Visual Instruction Supply Corp. (6)
1757 Broadway, Brooklyn, N. Y.
(See advertisement on page 134)

Wholesome Films Service, Inc. (3, 4)
48 Melrose St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y.M.C.A. Motion Picture Bureau (1, 6)
347 Madison Ave., New York City
19 S. LaSalle St., Chicago

MOTION PICTURE MACHINES and SUPPLIES

The Ampro Corporation (6)
2839 N. Western Ave., Chicago
(See advertisement on page 114)

Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago
(See advertisement on inside back cover)

Central Camera Co. (6)
230 S. Wabash Ave., Chicago
(See advertisement on page 135)

Consolidated Theatre Supply Corp. (5)
1600 Broadway, New York City
(See advertisement on page 130)

Eastman Kodak Co. (6)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Kodak Stores, Inc. (6)
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

General Films, Ltd. (3, 6)
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Herman A. DeVry, Inc. (3, 6)
1111 Armitage St., Chicago
(See advertisement in page 110)

Howard Hill Motion Picture Service (5)
280 Scenic-Piedmont, Oakland, Cal.
Chamber of Commerce Bldg.,
Los Angeles, Cal.
(See advertisement on page 133)

Holmes Projector Co. (3, 6)
1813 Orchard St., Chicago
(See advertisement on page 131)

Ideal Pictures Corp. (3, 6)
28 E. Eighth St., Chicago
(See advertisement on page 130)

Institutional Cinema Service, Inc. (3, 6)
130 W. 46th St., New York City

International Projector Corp. (3, 6)
90 Gold St., New York City
(See advertisement on inside front cover)

RCA Manufacturing Co., Inc. (5)
Camden, N. J.
(See advertisement on page 129)

S. O. S. Corporation (3, 6)
636 Eleventh Ave., New York City

Sunny Schick National Brokers (3, 6)
407 W. Wash. Blvd., Ft. Wayne, Ind.

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Sound Projector (5)
1921 Oxford St., Philadelphia, Pa.
(See advertisement on page 137)

Victor Animatograph Corp. (6)
Davenport, Iowa
(See advertisement on page 113)

Visual Education Service (6)
131 Clarendon St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

PICTURES and PRINTS

Colonial Art Company
1336 N. W. First St., Oklahoma City, Okla.

Informative Classroom Picture Ass'n.
48 N. Division Ave., Grand Rapids, Mich.

SCREENS

Da Lite Screen Co.
2717 N. Crawford Ave., Chicago
(See advertisement on page 135)

Eastman Kodak Stores, Inc.
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

Institutional Cinema Service, Inc.
130 W. 46th St., New York City

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Conrad Slide and Projection Co.
709 E. Eighth St., Superior, Wis.

Eastman Educational Slides
Johnson Co. Bank Bldg.,
Iowa City, Ia.

Edited Pictures System, Inc.
330 W. 42nd St., New York City

Ideal Pictures Corp.
28 E. Eighth St., Chicago, Ill.
(See advertisement on page 130)

Keystone View Co.
Meadville, Pa.
(See advertisement on page 112)

Radio-Mat Slide Co., Inc.
1819 Broadway, New York City
(See advertisement on page 134)

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 132)

Teaching Aids Service
Jamaica Plain, Mass.
(Slide-making Material)
(See advertisement on page 130)

Visual Education Service
131 Clarendon St., Boston, Mass.

Visual Sciences
Suffern, New York
(See advertisement on page 134)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

STEREOGRAPHS and STEREOSCOPES

Herman A. DeVry, Inc.
1111 Armitage St., Chicago
(See advertisement on page 110)

Keystone View Co.
Meadville, Pa.
(See advertisement on page 112)

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.
(See advertisement on page 109)

Eastman Kodak Stores, Inc.
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

General Films Ltd.
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Keystone View Co.
Meadville, Pa.
(See advertisement on page 112)

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 132)

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 127)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

REFERENCE NUMBERS

(1) indicates firm supplies 35 mm. silent.
(2) indicates firm supplies 35 mm. sound.
(3) indicates firm supplies 35 mm. sound and silent.
(4) indicates firm supplies 16 mm. silent.
(5) indicates firm supplies 16 mm. sound-on-film.
(6) indicates firm supplies 16 mm. sound and silent.

Continuous insertions under one heading, $1.50 per issue; additional listings under other headings, 75c each.